line 15, change "field" to --fields--;

Page 24, line 15, change "yield assuming that 100% of the unreached acetylene reacted," to --theoretical yield--; and

Page 25, lines 7-8, change "yield where 100% of the unreached acetylene reacted," to --theoretical yield--.

IN THE CLAIMS:

Please cancel claims 1-18 without prejudice or disclaimer and add new claims 19-36 as follows:

19. (new) A method of manufacturing carbon fiber coils comprising:

placing a solid catalyst at a predetermined position within a reaction chamber;

supplying stock gas and a catalytic gas to the reaction chamber;

heating the interior of the chamber to grow carbon fiber coils from the stock gas, wherein the reaction chamber is substantially free of a magnetic field.

20. (new) The method of claim 19, wherein the catalytic gas contains elements of the fifteenth and sixteenth groups in the periodic table.

21. (new) The method according to claim 20 including supplying the stock gas and the catalytic gas to the reaction chamber at respective predetermined velocities through a port formed in the reaction chamber.

22. (new) The method of claim 21 including setting the velocity of the stock gas in the range of 10 to 1000 times a distance between an outlet of the port and the solid catalyst when the velocity is expressed in centimeters per minute and the distance is expressed in centimeters.

23. (new) The method according to claim 22 including applying voltage to the catalyst to charge the solid catalyst.

24. (new) The method according to claim 23, wherein the voltage is a DC voltage and the solid catalyst is negatively charged.

25. (new) The method according to claim 22, wherein the interior of the chamber is heated to a temperature in the range of 700 to 830 degrees Centigrade.

26. (new) An apparatus for manufacturing carbon fiber coils from a stock gas, which is subjected to thermal decomposition to generate solid carbon, and a catalytic gas, which promotes thermal decomposition of the stock gas, the apparatus comprising;

a reaction chamber, to which the stock gas and the catalytic gas are supplied through a port;

a solid catalyst located at a predetermined position within the reaction chamber; and

a heating device for heating the interior of the reaction chamber to grow carbon fiber coils from the stock gas, wherein the heating device produces substantially no magnetic field in the reaction chamber.

27. (new) The apparatus according to claim 26, wherein the solid catalyst faces an outlet of the port and is spaced from the outlet by a distance that is in the range of 1/1000 to 1/10 of the velocity of the stock gas flowing through the port when the velocity is expressed in centimeters per minute and the distance is expressed in centimeters.

28. (new) The apparatus according to claim 27, wherein the stock gas contains one of acetylene, methane, and propane.

29. (new) The apparatus according to claim 28, wherein the catalyst contains fine crystals of nickel.

30. (new) The apparatus of claim 27, wherein the catalytic gas contains a gas having elements of the fifteenth and sixteenth groups in the periodic table.

31. (new) The apparatus of claim 30, wherein the catalytic gas contains one of sulfur, thiophene, hydrogen sulfide, methylmercaptan, phosphorus, and phosphorus trichloride.

32. (new) The apparatus according to claim 26, wherein the reaction chamber is heated to a temperature in the range of 700 to 830 degrees Centigrade.

33. (new) The apparatus according to claim 32, wherein the heating device includes a burner.

34. (new) The apparatus according to claim 32, wherein the heating device includes a heating chamber surrounding the periphery of the reaction chamber, and a high temperature fluid is delivered to the heating chamber.

35. (new) The apparatus according to claim 26 further comprising a power source, which is external to the reaction chamber, for applying voltage to the solid catalyst.

36. (new) The apparatus according to claim 35, wherein the power source is a DC power source for negatively charging the solid catalyst.